



BELLOWS SEALED VALVE

MODEL BE1

FORGED CARBON STEEL BELLOWS-SEALED GLOBE VALVE

Features

Compact forged carbon steel globe valve for steam and hot water. Suitable for use with small-process equipment.

1. Maintenance-free globe valve with bellows sealed stem.
2. No-leak gland with double seal design: bellows and gland packing seal.
3. No need to tighten gland packing.
4. Stellite hardened surfaces on valve plug and valve seat for superior seal and durability.
5. Flexible valve design provides tight seal even when the stem is slightly off-center.
6. Additional bellows at the exposed portion of the stem prevents corrosion from dirt, dust, salty air or rain.
7. Smooth handwheel operation.



Specifications

Model	BE1		
Connection	Socket Welded		Flanged
Size (mm)	15, 20, 25, 40, 50		
Maximum Operating Pressure (MPaG) PMO	5.0		2.1*
Maximum Operating Temperature (°C) TMO	425		
Applicable Fluids**	Steam, Water, Air		

* Flanged connections with higher PMO available on request. Consult TLV for details.

1 MPa = 10.197 kg/cm²

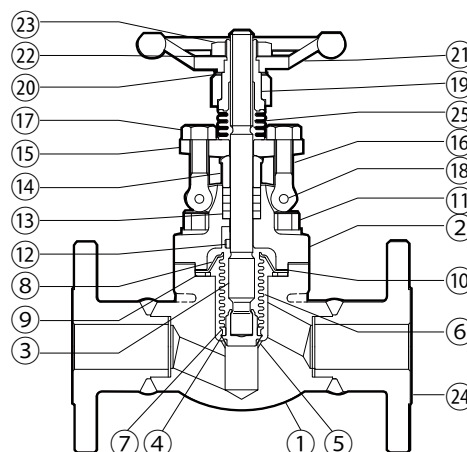
** Do not use for toxic, flammable or otherwise hazardous fluids.

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 5.0
Maximum Allowable Temperature (°C) TMA: 425

No.	Description	Material	JIS	ASTM/AISI*
①	Body	Carbon Steel	—	A105
②	Bonnet	Carbon Steel	—	A105
③	Valve Stem	Stainless Steel	SUS410	AISI410**
④	Valve Plug*	Stainless Steel	SUS304	AISI304**
⑤	Valve Seat (Body)*	Carbon Steel	—	A105
⑥	Bellows Ring	Stainless Steel	—	A276-316L
⑦	Bellows	Stainless Steel	SUS316L	AISI316L**
⑧	Bellows Flange	Stainless Steel	—	A276-316L
⑨	Lower Bonnet Gasket	Graphite/Stainless Steel	- /SUS316	- /AISI316**
⑩	Upper Bonnet Gasket	Graphite	—	—
⑪	Bonnet Bolt	Alloy Steel	—	A193-B7
⑫	Pin	Stainless Steel	—	A276-410
⑬	Gland Packing	Graphite	—	—
⑭	Gland Bushing	Stainless Steel	—	A276-410
⑮	Gland Flange	Carbon Steel	—	A105
⑯	Eye Bolt	Alloy Steel	—	A193-B7
⑰	Eye Bolt Nut	Carbon Steel	—	A194-2H
⑱	Eye Bolt Pin	Carbon Steel	—	A276-304
⑲	Yoke Sleeve	Stainless Steel	—	A276-410
⑳	Washer	Stainless Steel	—	A276-304
㉑	Handwheel	Malleable Cast Iron	FCMB270	—
㉒	Nameplate	Aluminium	AIP	B209**
㉓	Lock Nut	Carbon Steel	S25C	AISI1025**
㉔	Flange	Carbon Steel	—	A105
㉕	Protective Bellows	Stainless Steel	SUS316L	AISI316L**

* Stellite hardened surfaces on Valve Plug and Valve Seat ** Equivalent

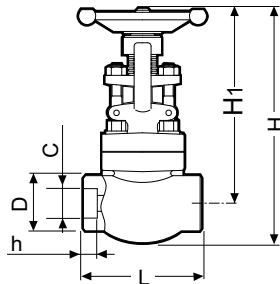
CAUTION To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.



Dimensions

● **BE1**

Socket Welded



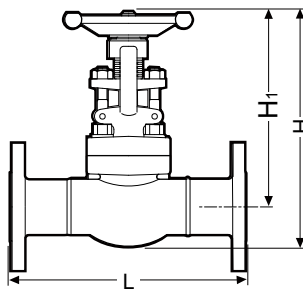
BE1 Socket Welded (mm)

Size	L	H**	H ₁ **	D	C	h	Weight (kg)
15	79	186	161	32	22.2	11	2.3
20	92	194	166	38	27.7	13	2.6
25	111	228	191	47	34.5		4.4
40	152	297	237	62	49.1		7.9
50	172	336	270	74	61.1	16	12

*JIS standard, ASME B16.11-2005 available
 ** Approximate at full open position

● **BE1**

Flanged



BE1 Flanged (mm)

Size	L				H**	H ₁ **	Weight*** (kg)
	JIS		JPI* Class				
	10KRF	20KRF	150KRF	300KRF			
15	152	152	152	152	186	161	3.9
20	178	178	178	178	194	166	5.4
25	203	203	203	203	228	191	7.8
40	229	229	229	229	297	237	14
50	267	267	267	267	336	270	19

* Can connect to equivalent ASME Class
 ** Approximate at full open position
 *** Weight is for Class 300 RF

CV Values

	Nominal Valve Size (mm)				
	15	20	25	40	50
Cv (US)	2.3	2.9	5.3	14	20
Cv (UK)	1.9	2.4	4.4	12	17
Kvs (DIN)	2.0	2.5	4.5	12	17

Note: BE1 is a reduced port valve.
 As the CV values of the BE1 are relatively small, it may cause inadequate flow if used as a steam supply main valve.

Manufacturer

ISO 9001/ISO 14001

TLV® CO., LTD.

Kakogawa, Japan

is approved by LQA Ltd. to ISO 9001/14001

